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LEASING: A MEANS OF FINANCING THAT BUSINESS SHOULD NOT OVERLOOK

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LEASING:

A MEANS OF FINANCING THAT

BUSINESS SHOULD NOT OVERLOOK

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PREFACE

The equipment leasing business in the past decade has experienced phenomenal growth. Recent surveys have produced statistics which substantiate the fact that leasing, both for the lessor and the lessee, is fast becoming a big business. The leasing of equipment has become so acceptable today that about half of all American firms now lease at least one piece of equipment. This resulted in two billion dollars being spent on equipment leases alone in 1961. Forecasts of the future give indications that almost all businesses will be leasing production or office equipment before 1970, resulting in an annual expenditure of eight billion dollars.

The figures for equipment leases are impressive, but because they deal with relatively small-value-items they do not give the whole picture. When one considers the existing lease arrangements involving land and buildings as well as equipment, it can more readily be seen that leasing of fixed assets has become a major factor in our economy and business operations.

Because management of the financial resources of an organization is such an important factor in its profitability, it is possible that a composite volume which includes a collection of the ramifications of leasing can be of great value to management. This paper attempts to set forth the current thinking in the field of leasing as it has been presented in periodicals, pamphlets, and books. These publications generally defend, attack, or analyze, as the case may be, one segment

of leasing. By combining and balancing all the points of view, it is possible that a more encompassing evaluation of leasing can be obtained and the drawbacks of reading about a subject on a piecemeal basis will be overcome.

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CHAPTER I

LEASING IN GENERAL

Leasing Defined

Lease financing can be accomplished in either of two ways. Assets can be acquired directly through a lease transaction or by the sale and lease-back of company owned fixed assets. In the case of sale and lease-back, legal title to the property is transferred to an investor, but use of the property is maintained through a lease arrangement. This type of an arrangement results in the asset being removed from the company's balance sheet. The sales price determines the increase in cash funds, but the effect of taxes on capital gains or losses can result in the increase in net working capital varying from the cash received.

The ingenuity of lessors has resulted in many different types of lease arrangements to fit specific needs of industries. Despite the various payment plans or options incorporated into leases, they generally fall into two categories - financial and operating leases.[1]

A financial lease is an agreement between the lessee and the lessor on a series of payments made by the lessee which, in total, will exceed the purchase price of the asset involved. These payments are calculated to return the original investment in the asset to the investor and to provide him with a predetermined rate of return. The time span of lease payments is usually extended over the major portion of the useful

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[1] Richard F. Vancil, "Lease or Borrow - New Method of Analysis," Harvard Business Review, September-October, 1961, pp. 122-123.

techniques. One must keep in mind that productive assets produce profits because they are used, not because they are owned. So the true decision to lease or not to lease should be based on whether leasing can produce more profit than any other financing method available.

Claims Made by Leasing Advocates

The principal claim of leasing is that it frees dollars which would otherwise be invested in ownership of fixed assets. In the case of cash purchases, the net working capital is immediately reduced. Leasing of the asset, however, will conserve the present working capital and can release cash for other uses when a cash amount has been set aside in anticipation of the acquisition. Working capital can be increased through sale-and-leaseback arrangements of fixed assets. This must not, however, be construed as bringing capital into the business.

Releasing or conserving this working capital alone is not the only criterion for the profitability of this choice. There must be a need for this working capital; such need must be able to produce more profit than the costs of leasing, and further, other sources which are less costly should be unavailable, either because they do not exist or because it is more desirable to keep them in reserve.

All companies are concerned with their cash flow. Leasing frequently is proposed as a means of improving cash flow. The usefulness of this claim is regulated by whether the need for a better cash flow is more important than the determination of the economic choice. This means

basically that a business must distinguish between cash or cost as the primary consideration.

Since taxes are so much a part of the financial way of life in business, interest in tax savings from leasing runs very high. In reality, since the initial financial lease term is relatively short, the tax benefits accrued result in a postponement of taxes and not a savings on taxes in most cases. This postponement should not be discounted completely, because it may be of assistance in improving one's cash flow position at a critical time.

Probably the most controversial claim of leasing is the benefit derived from its being an off-balance-sheet item. The present day attitudes of stockholders and investors in organizations have caused companies with AAA 1 credit to turn to leasing as a means of improving the appearance of the balance sheet. Present accounting practices do not require leased assets to appear in the body of the balance sheet. Only the current portion of the rental payment will be shown as a payable, and often even this will not be distinguished from other payables. It is generally accepted that all financial leases should be in the footnotes of the balance sheet, but this does not affect the ratios derived from the information in the body of the financial statement. This claim causes such controversy among accountants and financial analysts that a later section of this paper is devoted entirely to the examination of this phase of leasing.

As a result of modern day technology, industry is very concerned with the possibility of obsolescence. This is especially true today in the areas of ADP, EDP, and other electronic office equipment. The financial lease should never be used to hedge against obsolescence, but there are times when an operating lease can be used effectively for this purpose.

Other claims such as (a) hedging against the future because of poor forecasting techniques, (b) restrictive regulations because of debt limits, (c) avoiding dilution of ownership, (d) and use of equipment for contractual work will be incorporated later in this paper as the various subjects with which they pertain are presented.

Pitfalls to Avoid in Leasing

Leasing companies, like any other business, have their share of corrupt and unethical businessmen. Therefore, when seeking a lease there are certain areas where particular attention should be given so as not to become a victim of smooth sales talk.[2]

One should be skeptical about "bargain" purchase options. The safest lease arrangement for leasing assets is one which returns the asset to the lessor after the lease period. Many times, however, the option to buy is highly desirable. In such cases the best policy is to make sure that no part of the payment is used to establish equity in the asset. When the time comes to exercise the option to purchase,

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[2] Robert Sheridan, "Look Before You Lease: Nine Areas to Check," Business Management, February, 1962, pp. 47 - 51.

one should insure that he is paying what has been appraised as the fair market value. Acceptance of lease plans which have high payments during the basic term and offer a purchase option at a price unreasonably low have been identified in the past by the Internal Revenue Service as conditional sales. When one makes such a purchase under this type of an arrangement, one must capitalize the asset as of the time of the initial leasing start. After depreciation has been taken into account, all back taxes which derive from the difference in claimed lease payments and depreciation must be paid. A means of checking as to whether a proposed contract is a conditional sale or a lease is examine the lessor's books and see how he carries the asset.

Caution should be taken in entering a plan which is composed of accelerated declining payments. These plans are offered as a means of fast writeoff, but they do not point out that at the same time, they dilute the major advantage of leasing, i.e., the preservation of working capital. These plans are sometimes disguised by requiring such items as payment in advance and down payments initially. Under such conditions a five-year labeled lease can be reduced to a four-year or less lease as far as payments are concerned.

There are times, however, when the decline-payment types of leases are useful. An example of this is one where the asset will not start paying for itself immediately because of start-up delay. Then lower payments in the beginning (start-up period) and end (when equipment is old), and an accelerated payment in the middle of the lease period can be useful. The secret of evaluating an accelerated declining payment is that if it fits your operational needs, use it; otherwise, beware of it.

Should you find that leasing can be of profitable use to your business, care must be taken in selecting a proper lessor. Selection of a small leasing company or one with too limited assets can restrict or make more costly future leases. Naturally, the larger the lease with the lessor, the better the deal. The larger the number of leases, the higher the costs involved. It is important to select a leasing company which is willing and able to grow with you. This type of an arrangement establishes a mutual confidence as a result of continuous and increasing contact. The basic criteria a lessor must fit are that he has proper resources to apply and adequate judgment and experience to obtain satisfactorily the confidence of institutional investors. The lessor must have an increasing amount of each of these to match any increase in needs of leased assets.

Lease payments are determined to satisfy many costs other than those of the asset itself, some of which are legal, administrative, and clerical. Frequently these extra costs are called packaged costs; however, sometimes this labeling hides the true price being charged for specific factors included in a lease. A case in point is the means by which servicing is included in a lease. Any portion of payment which goes for servicing should be determined and identified separately. In this specific case it is wiser to pay the costs of servicing on a monthly basis and avoid the addition of a leasing charge on a monthly service charge. Another possibility of being deprived of rightful reduction in payments occurs when a leasing company refuses to pass along the benefit

of a discount. The benefits derived from the lessor purchasing at a discount must be passed along to the lessee. This is required by the Robinson-Patman Act.[3] These are two examples, but when negotiating for a lease one should always be alert for other hidden factors which can be used by the leasing company to his disadvantage.

There are certain factors that should be kept in mind when assets are being sold under a sale-leaseback arrangement. The sales-leasebacks should not be handled on a piecemeal basis. The larger the amount, the better the rate and the more immediate the impact on a business. Avoid any arrangement where a public notice of the sale is involved. The sale should yield cash approximately equal to book value or market price, whichever is the larger. The situation which offers the best advantage is when the company has taken advantage of accelerated depreciation schedules and the market value of the asset is worth considerably more than the book value. Under these circumstances the firm can obtain a greater amount of working capital than any form of debt-financing against the asset. The desirability of sale-leaseback arrangements generally is based on the amount of cash generated.

In leasing, as in buying, one can be forced into paying a higher price by waiting too long to act. Care must be taken to avoid this situation by being prepared to distinguish between a sincere bid and a "low-ball" bid. The "low-ball" bid is one which is given by a leasing company to

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[3] Harry L. Hansen, Marketing: Text, Cases, and Readings (Homewood, Ill.: Richard D. Irwin, Inc., 1956), p. 619.

freeze out other sincere bids. It is a lower bid which will not actually be agreed upon, and is used as a means of dragging out the negotiations until the last minute, when the prospective lessee is up against the wall. At this point the lessee's needs force him to accept a higher price than originally quoted. A guard against this sort of tomfoolery is to insist that the lessor puts any offer in writing.

The final warning is that a lease is only as useful as needs dictate. Planning will disclose what is the real need, and then it can be determined if leasing has a place in one's financial plan for greatest leverage, sufficient liquidity, and maximum security.

Taxes

> Our present statute provides that rentals or other payments required to be made as a condition to the continued use or possession, for the purposes of the trade or business, of property to which the taxpayer has not taken, or is not taking title, or in which he has no equity, are deductible.[4]

If the above statement is satisfied, the contract is a lease and the payments involved are considered as rental payments. If it is not satisfied, the contract is considered to be a conditional sales contract.

The statutory provisions for the treatment of leases have been almost unchanged since the Revenue Act of 1916. One would think that in the last 45 years some definitive means, either through legislation or court decision, would provide concrete rules to go by. Unfortunately, this

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[4] Donald L. Wilson, "When is a 'Lease' a Lease?", Taxes, January, 1962, p. 15.

is not the case and, in fact, there are instances where court cases with almost identical facts have resulted in opposite decisions.

The present day thinking, as far as taxes are concerned, is that the intent of the two parties involved is the primary consideration in determining if a contract is a lease or not. It is this intent that should be reflected in the contract to insure its acceptance as a lease by the Internal Revenue Service. To show this intent the payments charged should represent a fair rental when compared to other leases and expert opinion. The option price to buy should be reasonable at the time the lease is drawn up. An option to buy should not be included if there is no possibility of the lessee buying the asset. The books of both parties concerned should treat such a contract as a lease. An interest factor should not be mentioned in the lease. Automatic passage of the title after a certain total payment should be avoided. A statement of intent to treat the contract as a lease in all respects should be included in the lease.

Other factors which substantiate the intention to enter a leasing arrangement include:

1. Ownership tags of the lessor on leased equipment.
2. Periodic inspection of equipment by the lessor.
3. Requirement that equipment cannot be moved without the lessor's permission.
4. All taxes, insurance, and normal maintenance expenses paid for by the lessor.

In actuality, the likelihood of having all the above items as part of a leasing arrangement is improbable. It should be remembered, however, that the more of these factors fulfilled, the more acceptable the lease will be to the Internal Revenue Service.

Analyzing the Costs of Leasing

Through comparison of different plans for asset acquisition, it can be found that leasing requires the largest gross dollar outlay. Thus, for companies with idle cash in the bank and no prospect of needing it in their business, it would be wiser to stick to cash purchase and save on the gross dollar outlay. For those who do not have this pool of stagnant money, the gross dollar outlay may not be the controlling factor in the decision making. The question is then, "Should we lease or borrow to buy?" The use of the word borrow is meant to cover items such as credit purchasing, reduction of working capital, sale of bonds, sale of stocks, conditional sales contract purchases, and bank loans. The collection of these possibilities under one word is not meant to imply that each properly fulfills the definition of borrowing. It is simply used to emphasize that when a company does not have excess, nonproductive money, any means used to obtain funds carries with it inherent costs in addition to the basic sum (the purchase price of the asset in this case).

There are several methods currently used to analyze the costs of leasing versus other borrowing methods. It is not uncommon to find the same method being used by those for and those against leasing in such a manner that both support their positions. The most outstanding example

of this encountered was where the same author wrote separate articles for and against leasing; in each case supporting his line of reasoning. The apparent mystical qualities that allow this to occur revolve around the assumptions that are made to arrive at tabular supporting data. The ideal system would be one where there are no assumptions involved. Since this condition does not exist in reality, the best that can be done is to limit the number of assumptions. Though the thought might be considered basic, perhaps the most important point is to make sure that any analysis used in making a decision is based on circumstances surrounding one's company's financing, not a hypothetical company's circumstances.

Usefulness to Small Business

Leasing gained momentum after World War II when big business found that it did not have the available capital to keep up with the growth dictated by high demands. Since that time the larger enterprises have continued to use this financing device effectively. The key point to note is that leasing became useful as a means of satisfying growth requirements.

Growth capabilities without availability of sufficient financing is a very accurate description of many of the small businesses in existence today. Small businesses comprise about 97% of the manufacturing firms [5] and 90% of the distribution and retailing forms in the country today.[6] This major segment of the economy is constantly searching for new means of financing its operations.

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[5] The Pros and Cons of Leasing, A Study for the Foundation for Management Research (Chicago, 1960), p. 2.

[6] Class Lecture by Dr. Leonard Prestwich, February 5, 1962.

The usual alternatives available to big businesses are generally unavailable to small ones. Stock issues by small businesses are costly because of high underwriting fees, and there exists little market demand for them. Financing institutions, other than local facilities, are uninterested in investment because of the smallness of the assets involved. Generally the local resources are limited and only available on a short-term basis. Thus, it can be seen that small businesses find it difficult to borrow money on a medium-term or long-term basis.

It is commonly recognized that small businesses can stimulate the economy by adding to efficiency and technology. Big business often finds itself seeking new cost reduction methods to compete effectively with these small enterprises. Though it cannot solve all the financial problems of small business, leasing can possibly be used by the entrepreneur to change a small business with a potential into a going enterprise. Whether it is found useful or not, small business cannot afford to overlook leasing as a possible source of drastically needed medium-term and long-term financing.

CHAPTER II

THE LEASING OF EQUIPMENT

The present day pressures of cost reduction and high production require that a company use the best equipment available to maintain a competitive position. Current business articles have pointed out that the primary reason for the West German industrial economy out-producing the United States economy is their modern equipped plants. It has also been pointed out that our production facilities are old and becoming more and more obsolete. Business must not let itself get into a position where it will try to do without proper equipment by using inefficient, low yield assets. Worn out equipment must be replaced by one means or another.

It is in this area of modernization of production facilities where leasing of equipment might provide the answer for some companies. Businesses often find themselves trapped into using old equipment because present depreciation methods have not kept pace with the loss in production capabilities of equipment. Even in those cases where a piece of equipment has been fully depreciated, the cash amount restored to net working capital is often insufficient to purchase a new piece of equipment because of inflationary trends. In Chapter I, general factors in leasing were discussed; more specific factors which are applicable to leasing of equipment will now be examined.

edging Against Inflation

Any time the intent of a plan is to hedge against an anticipated event, the action taken should be directly controlled by the needs of the company. During an inflationary trend it is safe to assume that purchasing or leasing of a specific piece of equipment will cost more at a future date. If a lease arrangement during such a trend enables a company to obtain machinery which it cannot immediately acquire through some type of purchase transaction, then leasing could be considered a means of hedging on inflation. There are other factors, however, which must be kept in mind. Under present day conditions equipment depreciates steadily with use, but during an inflationary trend this might not be true. This did occur during World War II, when inflated prices were paid for used equipment. If this should occur again, it would mean that residual value might exist where heretofore it was considered nonexistent. In those cases where residual value is now taken into consideration, estimates could be far below actual future value. When deciding whether to lease now, the estimated future inflated costs must be evaluated carefully, and possible changes in residual value should be taken into account.

Another matter to be considered is the possibility of the economy swinging the opposite way, i.e., recession or depression. One should not blindly acclaim the possible use which leasing has in hedging against inflation without admitting that it also can be a detriment during business slowdown. A lease binds the lessee to fixed payments, and in the case of financial leases it is impossible to escape paying for the full term unless the lessee becomes insolvent.

Technological Advancement

The present day ability of equipment manufacturers to create machine innovations has caused tremendous concern over the problem of obsolescence. It has literally reached the point in some fields where a current model comes off the end of an assembly line at the same time that a newer model is being started. Frequently, a company is heard acclaiming that its new plant is the best there is, but with the mental reservation "until a newer plant is opened by another company." Therefore, every available method to maintain modern equipment must be examined. Leasing should not be considered the least of these, for in certain areas it could prove to be the best method.

Since obsolescence is regulated primarily by a very short passage of time, the operating lease has a great appeal because of its ability to be easily terminated. Through the use of operating leases, the temptation to use outmoded equipment beyond the economic point is removed. The operating lease also transfers the major portion of the risk of obsolescence to the lessor. All these benefits, however, carry a high price tag. Since the lessor is taking a risk, he will undoubtedly feel that he should receive a higher immediate return on his investment. This will result in higher lease payments than those payable under a financial lease. In addition, there is the cost involved in lost time resulting from changing equipment and retraining personnel. One must remember that obsolescence should not be measured by age alone. For example, if one is not now using the full capacity of a piece of equipment and the only change in a new piece of equipment is increased capacity, then the obsolescence factor involved should be of no concern.

Improvement in Acquisition of Equipment

Management usually requires that funds spent for the purchase of fixed assets show a proper return on investment. Such proof is usually obtained by means of a thorough investigation, and frequently must be reviewed by complex and antiquated procedures. Due to the difficulty of securing approval, managers might continue to use obsolete equipment. Generally the procedures for clearing a lease are much simpler and the decision to lease could rest with the manager himself. In such cases leasing is preferable to no action at all.

Issuance of lease contracts under these circumstances, however, should be used judiciously. Any conclusive results from entering the lease should be pointed out to top management. It would be best to approach top management in the same manner as though the equipment had been leased for use on a pilot project. This would point out how leasing had improved upon the old condition, and also would give accurate information on how the equipment benefited the company's operation. Such a successful leasing venture could very well result in a review of the current acquisition procedures in an effort to remove any unnecessary obstructions.

Servicing

The complexity of modern day equipment often makes it inadvisable to attempt using factory-trained personnel for servicing purposes. Some companies feel that a lease which includes full maintenance is superior to the purchase of equipment with a separate arrangement for servicing. As was pointed out previously, it is more economical to pay the service charge

separately than include the payment as part of the lease. Generally, expert service is now available whether you lease or purchase a piece of equipment. The rate charged for service included in a lease is usually based on a maximum figure. Thus, if one enters into a service-contract, the costs are likely to be the same as those charged in a lease-service contract. It would appear that a separate arrangement for service would be the better of the two because the possibility of paying leasing charges on service payments is avoided.

Special Circumstances

The group which attacks the practice of leasing in general usually recognize that it does have some useful purpose for shortlived, special occasions. They would prefer to refer to this as renting rather than leasing, so that they cannot be quoted as supporting any phase of leasing. What they really are saying is, "I will use leasing when it serves my purpose." On this point it is difficult to see where advocates of leasing and the critics of leasing disagree.

Some companies, out of necessity, must operate equipment out-of-doors. This type of operation causes the equipment to be exposed to highly corrosive conditions and unusually high maintenance costs. If service charges in a lease are determined on the basis of average maintenance costs of equipment, then leasing the equipment would possibly be less costly than purchasing and maintenance costs of company owned equipment. Another application of this concept would be in the case of equipment which is subjected to unusual operating hazards.

There are occasions, especially in the construction business, where equipment is needed for a short time only. If there is no anticipated use for this equipment in the future, then it is plain to see that leasing can easily satisfy the current needs.

Fluctuation in demand must be constantly protected against. In the area of seasonally high demand, there could be occasion where equipment might only be needed for a small part of the year. This type of situation is highly conducive to making leasing arrangements profitable to the business. A similar case would be a sudden demand in an area which is not usually seasonal. Leasing could be the answer, but the concept of sub-contracting is becoming more popular and should not be overlooked.

Probably the most unpredictable element today in business is in the area of research and development. The expenditures in this area are growing by leaps and bounds. Frequently, costly equipment is used for short periods of time. Leasing could be used to reduce these costs of assets and make the R and D dollar go further.

Finally, experimenting with new processes and methods could be restricted by the vast capital outlay that is necessary if equipment was purchased. There are many instances where leasing of equipment could provide the necessary pilot model to assist in making a good decision at lesser costs than are now experienced.

Automobile Leasing

Forecasts of equipment leasing point out that the greatest growth is expected to occur in the transportation area. Past growth of equipment

leasing has received much of its potential from the particular interest business has shown in the area of automotive transportation leasing. This concept has become so popular with business today that 10% of the total factory production of new passenger cars are being used for leasing purposes.[7] This results in about one third of the presently operated automobile fleets being leased.[8] It is because of this high acceptability that a close look at the benefits may be particularly valuable.

When deciding upon the plan to use for providing automotive transportation for company employees, one should compare the quantitative and qualitative advantages of the alternatives available; i.e., employee-owned, company-owned, or leased transportation. When examining the leasing quantitative advantages, the emphasis should be placed on an operating lease situation and not rental by the hour, day, or week. Further, the quantitative analysis for each alternative should include all costs of operations, maintenance, and insurance.

Employee-ownership of automobiles can allow for accurate budgetary forecasts of operation if a fixed allowance or a flat rate, applied against "engineered" mileage, is paid for its use.[9] The initial purchase of the vehicle is assumed by the employee, thereby avoiding capital expenditure by the employer as exists in the case of company-owned automobiles. This type of an arrangement also allows the employee to choose the make automobile he desires, and avoids any complaints that may arise from being furnished a specific make of car. Management of the vehicle is passed on to the

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[7] Harvey Greenfield and Frank K. Griesinger, Sale-Leasebacks and Leasing in Real Estate and Equipment Transactions (New York: McGraw-Hill, 1958), p. 87.

[8] Leonard Sloane, "Autos and Trucks: Does it Pay to Lease Them?", Purchasing, March 2, 1959, p. 83.

[9] Greenfield, op. cit., p. 89.

employee, thereby eliminating usage of executive and clerical time in performing this function. This system, however, results in the company being unable directly to control insurance, appearance, safety, and availability of the vehicle. Since fixed allowance or mileage allowance usually causes an inequality to either the high-mileage or low-mileage employee, manipulation of expense accounts and/or morale problems may arise. Finally, use of this system restricts selection of employees who need automotive transportation to persons who own an automobile.

Company furnished transportation can be supplied by either company-owned or leased automobiles. The problem of which of the two to choose, if employee ownership is not desirable, revolves around the needs of the company for less capital investment and better cash flow, as well as the cost incurred from managing a company fleet. Leasing arrangements cover all the advantages of employee-owned vehicles except selection of the make of car, and it also avoids all the disadvantages of the system. Leasing, in addition, might be able to pass along savings resulting from mass purchasing of automobiles. The break-even point of company-owned and leased passenger cars has been estimated at about 20,000 miles per car per year.[10]

The types of leasing plans available for automotive vehicles include:

1. Complete Maintenance Plan - The lessee provides gas, oil, and liability insurance.

2. All Expense Plan - The lessor pays for everything except the driver. This plan results in high mileage charges and requires a minimum

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[10] Sloane, op. cit., p. 119.

amount to be paid. It should not be considered unless the vehicle incurs a very high mileage per year or the company, because of its small size, is not eligible for other, lower-cost plans requiring a large fleet.

3. Finance Lease Plan - The lessee pays for all maintenance, operation, and insurance costs. The fee paid for the automobile is based on a set percentage of the value of the car, and part of this payment is set aside in depreciation reserve. When the vehicle is sold, the lessee pays for any deficiencies or he receives any disposable profits.

Leasing As a Marketing Tool

The discussion so far has centered around factors which a company should consider when contemplating a leasing transaction. There is another phase which might bear investigation; that is, using a lease as an aid in marketing. "Leasing can bring distinct advantages to the lessor-manufacturer."[11]

There could exist several reasons behind a business finding it profitable to include a leasing plan in addition to the usual distribution plan. It could be highly effective in establishing strategy and a competitive position.

Should a manufacturer adopt leasing for the purpose of marketing, he would find that he could better control his used equipment market. The used equipment returned from any lessee could probably be economically reconditioned because of already functioning manufacturing processes. This reconditioned, used equipment could then be sold to profitable "fringe" market buyers who cannot afford to buy new equipment at this time. This

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[11] Greenfield, op. cit., p. 96

process enables exploitation of the profitable market for reconditioned equipment and establishment of contacts with possible future customers for new equipment.

Since a lessee generally needs a replacement when he returns a used piece of equipment, the advantage is in favor of the lessor-manufacturer who had previously supplied the piece of equipment. The lessor-manufacturer also is able, through his knowledge of the term and conditions of the lease, to predict the needed flow of production. Along these same lines, production of new models can be scheduled so that the manufacturer will not accumulate a large inventory of equipment which is no longer in demand.

All too often, manufacturers of high priced or untested new equipment find that the market is not willing to take a risk on a large capital expenditure of this nature. Through leasing the company will be able to reach more customers who are willing to make payments on a short-term lease which provides for an option to buy should the equipment prove successful. The lessor-manufacturer also receives the added advantage of being in a better position to control study and application of equipment.

Should a manufacturer have enough capital to finance his own leasing plan, he is in a better position, when business is needed, to vary his credit requirements below those of the professional investor in order to attract new customers. Repossession of leased equipment in case of default has many fewer entanglements than those applying to mortgages and conditional sale contracts. It must be assured that income from financing charges covers any interest charges of bank financing used to provide necessary working capital for a leasing plan. It should be

noted that banks often frown upon using their loans to finance leasing plans.

The adoption of a leasing plan requires more working capital than regular selling, but this method of spreading income over a long period of time can be beneficial in times of business slowdown. By using a financial lease, the guaranteed payments would insure continuous revenue which could prevent an undesirable shutdown.

These companies which do not have the working capital necessary to finance a leasing plan should not overlook this concept as a marketing possibility. Arrangements can be made through leasing subsidiaries, banks, or professional lessors which will offer most of the advantages of a lessor-manufacturer business.

CHAPTER III

LEASING OF REAL ESTATE

The leasing of real estate is an old-timer when compared to the leasing of equipment. The leasing of real estate had its birth in the United States almost a century ago. Just after the Civil War and in the early 1900s, low payment, long-term leases (usually for 99 years) were offered to business concerns which would improve the land by erecting specified structures within a certain time period.[12] This opportunity was offered as a means of developing the nation's metropolitan areas. Interestingly enough, this effort was so effective that conditions now exist, because of high prices and the lack of availability of land in metropolitan areas, where leasing is often more advantageous than buying. The overcrowding of business in the cities has become so critical that leasing arrangements are being extended to cover air rights over property. An example of this is the recently announced plan for a hotel to be built over a railroad's right of way. The original use of attracting businesses to an area, however, is still very much used as witnessed by offers made by local communities of low-payment, long-term leases in industrial parks.

It was not until the mid-30s that the presently accepted practice of sale-leaseback arrangements was fostered. This type of an arrangement, although recognized, did not come into wide usage until the mid-40s.[13] This acceptance was accelerated as a result of the need for

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[12] Greenfield, op. cit., p. 19.

[13] Ibid.

capital for purposes of growth. Many companies realized that the opportunity for greater profits overshadowed the arguments in favor of ownership of bricks and mortar. This condition points out, once again, that it is the use, not ownership, of an asset that earns profits.

As one would expect, the leasing arrangement used in real estate transactions is of the financial type. There is one big difference, however, and that is that land has practically an infinite life span. Therefore, the determination of payment cannot be made on the basis of the useful life of the asset alone. In the majority of cases this also applies to the leasing of buildings, although to a lesser extent. To cope with this situation a variety of methods for determining payments have been created. The most frequently encountered payment plan is one in which the lessor is able to recoup his investment plus a reasonable return on that investment within a set period of time. After this time the reduced payment is usually based on the costs of retaining the asset plus a return on the asset value. Another frequently encountered payment plan is called the percentage lease. This entitles the lessor to a payment equal to a percentage of the profits or gross sales derived from the property. When this plan was originated after World War I, the chain stores used it quite often, but now it is more frequently used to control mineral rights (usually oil) of the adjacent areas to a currently functioning mineral extraction operation.

Building on Leased Land

Often, because a desired site is owned by persons who are reluctant to sell or make improvements, it becomes necessary for a

business to lease the land and make its own improvements. To safeguard the lessee, the lease should be for a very long period, usually a total of 99 years after considering the basic term and all renewal options. Legally, any improvements made to the land become the property of the owner of the land. This means that a building constructed on leased land is legally titled to the land owner. To replace this title, the business which constructed and/or operates the building owns what is known as a leasehold estate. This entitles the business to earn income from structures constructed and/or operated on land belonging to others.

The fact that businesses which build on leased land hold only the saleable asset of the leasehold can cause difficulty in financing improvements. The long-term lease is of some assistance in comforting the investor's interest in the improvements. There frequently exists reluctance, however, by potential investors to accept a leasehold estate as security for a loan to protect against default. Should a business default in payment of ground rent (periodic payments for leased land), the landowner has the legal right to foreclose on any structures or other improvements which occupy his land. To avoid this possibility, a stipulation should be included in a land lease which provides for the ground rent to be subordinate to any lien on an improvement that is used as security on a loan. This would, in effect, offer the investor in any improvement loan the opportunity to reclaim the remaining balance owed to him through sale of the leasehold estate, without fear of foreclosure as a result of a land lease arrangement.

Reference has been made to the 99-year lease as a protection to the lessee. Any offer of a single term lease for 99 years, however, should be cautiously examined. Past experience has shown that land owners prefer the lease to be divided into time spans of 21 to 26 years each.[14] This is to allow renegotiation of payments based on changing economic conditions. The landowner's main interest is to raise payments in proportion to the increased value of the property, but it must be remembered that it can also be beneficial to the lessee should the property prices recede. Another factor that the lessee should keep in mind is that there is presently a movement afoot to treat leases as debts when analyzing a business' financial statement. It is clear that with such an analysis technique the longer the lease, then the higher the debt will be.

The fact that the business does not own the land on which its improvements stand does not preclude the possibility of a sale-leaseback arrangement on a leasehold estate. Quite the reverse is true, and there are many financing facilities interested in such a transaction, provided a long-term lease exists.

Sale-and-Leaseback of Real Estate

Before consideration of the possibility of entering into a sale-leaseback arrangement, some fundamental conditions must exist. The business must have equity in the asset to the extent that any outstanding mortgage balance is less than the cash amount received from the sale after

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[14] Ibid., p. 26.

capital gains or losses and taxes have been taken into account. In addition, no restrictions from previous financing transactions can exist which directly control the sale of the asset involved. If these two requirements are fulfilled, then future investigation into sales-leasebacks may prove beneficial.

Sale-and-leaseback of real estate, like a similar transaction mentioned in connection with equipment, will provide more cash than any other arrangement and still retain usage of the asset. The only difference between such a transaction with real estate and equipment is that the former usually results in a larger amount of cash being received.

When a leaseback involves payment for usage of land, a new tax benefit is introduced. The law does not allow depreciation of land owned, but through a sale-leaseback arrangement it should be realized that deductions for land expense are being allowed and, therefore, a tax advantage is being received. The lessee should not let himself be fooled into believing that the government is allowing him, in effect, depreciation up to 52% of the land value. It must be remembered that when the lease has run out, the land does not belong to the lessee. Therefore, it is best to consider this added tax benefit as a reduction in the present dollar cost of leasing land.

Sales-leasebacks also provide a means for converting unrealistic book values of real estate into current value figures. In the case of assets which were purchased and/or constructed during periods of depression, present day tax and accounting procedures will not allow

the true value to be shown. Through a sale-leaseback transaction the total assets of the company will better reflect their current value than did the old book value balances.

The financial analysts have continuously complained about present depreciation systems not showing the company's true costs because current value or replacement value of assets are not taken into account. Under a leaseback arrangement this is not a problem, because the current payments are always known and income statements better reflect the costs of using the real estate segment of fixed assets.

There are two legal advantages of primary interest: the leaseback effect on financial restrictions and bankruptcy. The usual debt agreement generally includes, as a provision of the loan, requirements concerning additional debt, size of working capital, debt ratios, etc. Sales-leasebacks offer the opportunity of acquiring needed working capital without having management restricted by the requirements of debt financing. This gives management the flexibility of acquiring funds as needed without experiencing timely and costly delays.

The law requires that the first mortgagee, in the case of bankruptcy, is preferred up to the proceeds received from the sale of mortgaged property. For any deficiency the first mortgagee becomes a general creditor. On the other hand, if there is an excess above the unamortised loan amount, this excess will benefit the general creditors. The Chandler Act requires in the case of a lease-back arrangement that the liability to the lessor is limited to one year's rental under

general bankruptcy.[15] Thus it would be better for the general creditors to be operating under a leaseback agreement if an owned asset is sold for less than the remaining balance of the mortgage. The relationship between mortgage and asset value is often difficult for the creditors to evaluate. But if the creditors knew that a leaseback existed and also knew the maximum payment necessary to the lessor in case of bankruptcy, they could better measure the company's credit worth on the basis of assets wholly owned. Because of this legal limitation on the lessor's claims, a leaseback contract could establish a better credit rating for some businesses.

The general advantages of leasing mentioned earlier also apply to leaseback contracts for real estate. The largeness of the asset involved, however, does create one further complication. The major problem created is that should a plant be found no longer pfofitable, the company is committed to either pay rent for a closed plant or attempt the often hopeless task of sub-leasing. The leaseback agreement is a definite restriction to mobility.

The sale-leaseback can be most useful for the business which does not have the capital available to invest in capital expenditures, but does need to have its factory or distribution points conform to certain specifications. When the design of the plant is important, a business can arrange to build one exactly suited to its needs and then enter into a sale-leaseback contract. This will result in satisfying the physical requirements of the plant as well as avoiding an excessive

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[15] Ibid., p. 38.

burden of a high capital expenditure. Examples of where special design of distribution points might be needed are supermarkets and gasoline stations. In these cases leaseback not only fills the design and financial need, but it also gives the company control over location and operation. Sales-and-leasebacks of this type are usually negotiated with local investors and help increase local interest in the companies' products.

Sources of Leaseback Financing

Local communities are showing increasing interest in using the low-payment, long-term lease to attract new business. Often accompanying the lease are further benefits which might include exemption from local taxes, lower utility costs, free rail facilities, and public financing of improvements at low interest costs. Some communities have even reached the point of giving land to companies which will come in and build. Other arrangements such as leasing community-owned facilities at the cost of interest and amortization of bonds issued to build the facilities are available. After the bonds are completely retired, the community will either agree to a token payment per year or give the company the property. If location of a business is not restricted to a metropolitan area, investigation of these and other similar community leasing plans could prove valuable.

When considering leaseback financing, the most reasonable interest rate is often given by tax-exempt organizations. It should be noted that these organizations' interest rates are usually about 1/8 to 1/4%

below that charged by the insurance companies.[16] Tax-exempt educational institutions are often considered to be the most desirable to deal with. Other sources of leaseback financing, in order of preference, are insurance companies, pension and profit-sharing funds, and real estate syndicators.

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[16] Ibid., p. 23.

CHAPTER IV

METHODS OF DETERMINING COSTS

The decision to lease rather than to buy, or to borrow and buy, requires the weighing of tangible as well as intangible effects. The tangible information of most importance in every business situation is the amount a particular action is going to cost. There are various methods in use for determining costs, but each method has its limitations, either as to presenting the true costs or its ability to be used in comparison with computed costs of other means of financing. The user of any method must know these restrictions, because blind use of any method in making a decision will result in surprising and possibly catastrophic results. These inherent inabilities of a method, which must be of concern, are above and beyond the previously mentioned dangerous assumptions that can make forecasted results vary from actual ones. The best representation of the "true state of the world" requires that a cost determination method has the fewest possible limitations and uses a minimum of assumptions.

A presentation of costs in today's dollars for any form of acquisition can be obtained by using "present value rates." These rates reduce future dollar expenditures or credits to their equivalent value today when used in connection with an assumed rate of return. Stated another way, the resulting cost figure will represent the amount of money needed by a company today to be able to make the scheduled future payments, <u>if</u> a given rate of return is maintained. Since these ratios are identical with what are frequently called "discount rates," they can also be used to determine the rate of interest charged for financing. The factors by which present values can be calculated are available in tables. One such table, from which all present value calculations in this paper were made, is shown in Exhibit I.

EXHIBIT I
PRESENT VALUE TABLES*

Year	Discount Factors for Interest Rate of:				
	1%	2%	3%	4%	5%
0	1.0000	1.0000	1.0000	1.0000	1.0000
1	.9950	.9804	.9709	.9615	.9524
2	.9901	.9612	.9426	.9246	.9070
3	.9851	.9423	.9151	.8890	.8638
4	.9802	.9238	.8885	.8548	.8227
5	.9754	.9057	.8626	.8219	.7835
6	.9705	.8880	.8375	.7903	.7462
7	.9657	.8706	.8131	.7599	.7107
8	.9609	.8535	.7894	.7307	.6768
9	.9561	.8368	.7664	.7026	.6446
10	.9513	.8203	.7441	.6756	.6139

Year	Discount Factors for Interest Rate of:				
	6%	7%	8%	9%	10%
0	1.0000	1.0000	1.0000	1.0000	1.0000
1	.9434	.9346	.9259	.9174	.9091
2	.8900	.8734	.8573	.8417	.8264
3	.8396	.8163	.7938	.7722	.7513
4	.7921	.7629	.7350	.7084	.6830
5	.7473	.7130	.6806	.6499	.6209
6	.7050	.6663	.6302	.5963	.5645
7	.6651	.6227	.5835	.5470	.5132
8	.6274	.5820	.5403	.5019	.4665
9	.5919	.5439	.5002	.4604	.4241
10	.5584	.5083	.4632	.4224	.3855

*To obtain discount factors which are carried out to more decimal places, consult Accountants' Handbook, 3rd Ed., pp. 1436-1437 (8 decimal places) or Financial Handbook, 3rd Ed., pp. 1183-1186 (9 decimal places) or compute values from formula $v^n = \frac{1}{(1 + i)}$ where n = years and i = interest rate.

TABLE 1
[illegible]

[illegible] Standard Deviations for Internal [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10

[illegible] Standard Deviations for Internal [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10

The Madison Case

The easiest means to point out the procedures and limitations of several of the methods currently in use is to apply each method to the same hypothetical situation. With this in mind, future discussion will center on an acquisition decision facing the Madison Company.

> The Madison Company has decided to acquire a piece of equipment with a cash purchase price of $1,000. The management is reasonably sure that the piece of equipment will have a useful life of at least four years, but no longer than five years, at the end of which time the equipment will have a zero scrap value. The company's financial situation is sound, and during the past few years management has always been able to select new investment projects that had a projected rate of return of at least 10% after taxes. Management expects that this investment "opportunity rate" on new projects will continue in the future.
>
> ....Although the firm has not made much use of short-term debt, its commercial bank has indicated a willingness to loan up to $20,000 at 6% interest ....
>
> In addition to being available for outright purchase, the new machine being acquired by the Madison Company can be financed on either of two conditional sales contracts (Plans 1 and 2 in Exhibit II) or on either of two non-cancelable lease agreements (Plans 3 and 4).[17]

EXHIBIT II
ALTERNATIVE FINANCING PLANS*

	Debt Financing		Lease Financing	
End of year	Plan 1	Plan 2	Plan 3	Plan 4
0	$224	$ 0	$ 224	$ 375
1	224	237	224	275
2	224	237	224	200
3	224	237	224	150
4	224	237	224	100
5	-	237	-	-
Total	$1,120	$1,185	$1,120	$1,100

* Richard F. Vancil, "Lease or Borrow - New Method of Analysis," Harvard Business Review, September-October, 1961, p. 129.

[17] Vancil, op. cit., p. 129.

Interest Rate Method

One frequently used method of evaluating different financing plans is comparison of the interest rates charged. The selection of the plan to be used is then based on the plan with the lowest interest rate. For payment plans consisting of varying amounts such as Plan 4, trial and error must be used to determine the interest rate. This is made an easier task when tables such as Exhibit I are used. However, when the same contractual payments are to be made (as in Plans 1, 2, and 3) an easier means than trial and error is available. The procedure consists of dividing the payment into the purchase price of the involved asset to obtain the total of the yearly discount factors in the applicable percentage column. This total is then compared with the totals for each column over the same period in Exhibit I. In the case of Plans 1, 2, and 3 this procedure would result in the following:

$$\text{Total discount factor for Plans 1 and 2} = \frac{\text{purchase price}}{\text{payment}} = \frac{1000}{224} = 4.4643$$

The total of the 6% rate, discount factors for payment years 0 through 4 equals 4.4651.

$$\text{Total discount factor for Plan 3} = \frac{\text{purchase price}}{\text{payment}} = \frac{1000}{237} = 4.2194$$

The total of the 6% rate, discount factors for payment years 1 through 5 equals 4.2124.

The above computations show that Plans 1, 2 and 3 have an implicit interest rate of approximately 6%. The trial and error method used in Plan 4 will establish its implicit rate to be 7.5%. If the lowest rate

rule is applied, Plan 4 would be eliminated and the company could be indifferent about Plans 1, 2 and 3. This answer does not, however, result in representation of the lowest cost plan. This is because the method does not consider the effects of the amount of financing provided, the different tax deductions, and depreciation effects.

The Conventional Approach

The conventional method involves discounting future cash flows at a rate representing the utility of funds to the borrower. This method will be applied to the possible plans in separate stages covering outright purchase, debt financing, and lease financing to enable explanation of the various steps involved with each type of financing.

It is necessary to have additional information on depreciation methods and the tax rate used to arrive at the present-value cost (after taxes) of a cash purchase. For the computations in this paper it is assumed that the Madison Company is subject to a 52% federal income tax, and follows the policy of depreciating owned assets by the sum-of-the-years-digits method. The procedure for determining the present-value cost after taxes is to multiply the annual depreciation allowance for years one through five by the tax rate to arrive at the annual tax savings. These annual tax savings are then multiplied by the appropriate present-value rate of the given "opportunity rate" to determine the present dollar credit received from future depreciation allowances. The total of these credits subtracted from the purchase price of the equipment will give the net present-value cost after taxes. See Exhibit III for computations for outright purchase by the Madison Company.

EXHIBIT III
PRESENT-VALUE COST (AFTER TAXES) OF CASH PURCHASE*

Purchase price of equipment $1,000

Present value of tax shield provided by depreciation:

1 End of year	2 Sum-of-the-digits depreciation	3 52% tax saving	4 Present value at 10%	
1	$ 333	$173	$157	
2	267	139	115	
3	200	104	78	
4	133	69	47	
5	67	35	22	
Total	$1,000	$520	$419	419
Net present-value cost after taxes				$ 581

* Richard F. Vancil, "Lease or Borrow - New Method of Analysis," Harvard Business Review, September-October, 1961, p. 130.

The determination of the present-value cost of debt financing is complicated by the fact that the deductible interest which is included in each year's installment payment must be calculated. In computing the interest charge for any one year, the 6% interest is applied against the principal outstanding balance of the previous year. The principal balance for any one year is derived by subtracting the net difference of the debt payment and the interest charge for that year from the previous year's principal balance. The annual tax savings on interest is obtained by multiplying the annual interest charge by the tax rate. This tax savings is then added to the depreciation allowed for that year to obtain the total tax savings of depreciation and interest. The net cash flow is the difference between this total and the annual debt payment and should be reduced to present value by applying the appropriate rate from Exhibit I. The total of these values represents the net-present value cost after taxes. See Exhibit IV for computation of the costs for the proposed debt financing plans for the Madison Company. The red figures in the fifth year of

Plan 1 represent the cash inflow resulting from the depreciation credit which is not offset by a debt payment.

EXHIBIT IV

PRESENT-VALUE COST (AFTER TAXES) OF DEBT FINANCING*

Present-value cost (after taxes) of debt financing on Plan 1

1 End of year	2 Debt payments	3 Principal bal. outstanding (Previous bal. Col. 2 + Col.4)	4 6% int. on principal (Col. 3 x 6%)	5 Tax savings on interest (Col. 4 x 52%)	6 Total tax savings depreciation & int. (Col. 5 + Col. 3 in Exhibit III)	7 Net cash flows (Col. 2-6)	8 Present value of net flows at 10%
0	$ 224	$ 776	0	-	-	$ 224	$ 224
1	224	598	$ 46	$ 24	$ 197	27	25
2	224	410	36	18	157	67	55
3	224	211	25	13	117	107	80
4	224	0	13	7	76	148	101
5	-	-	-	-	35	35	22
Total	$1,120		$ 120	$ 62	$ 582	$ 538	$ 463

Present-value cost (after taxes) of debt financing on Plan 2

End of year	Debt payments	Principal balance outstanding	6% interest on principal	Tax savings on interest	Total tax savings depreciation & interest	Net cash flows	Present value of net flows at 10%
0	-	$ 1,000	-	-	-	-	-
1	$ 237	823	$ 60	$ 31	$ 204	$ 33	$ 30
2	237	635	49	25	164	73	60
3	237	435	37	19	123	114	86
4	237	224	26	14	83	154	105
5	237	0	13	7	42	195	121
Total	$1,185		$ 185	$ 96	$ 616	$ 569	$ 402

* Richard F. Vancil, "Lease or Borrow - New Method of Analysis," Harvard Business Review, September-October, 1961, p. 130.

The computation of the present-value cost (after taxes) of lease financing is relatively straightforward. The tax savings for any one year are derived by multiplying the previous year's lease payment by the tax rate. The net difference between the annual lease payments and the tax savings result in the net cash flow. This net cash flow is then multiplied by the appropriate present value rate to obtain the present value of the new flow. The total of the yearly net flow represents the net present-value cost after taxes. See Exhibit V for computation of the costs of the lease financing plans available to the Madison Company. Red figures in the fifth year represent cash inflow due to no lease payments being made in that year.

EXHIBIT V
PRESENT VALUE COST (AFTER TAXES) OF LEASE FINANCING*

Present-value cost (after taxes)of lease financing on Plan 3

End of year	Lease payments	52% tax savings at end of year	Net cash flows	Present value of net flows at 10%
0	$ 224	-	$ 224	$ 224
1	224	$ 116	108	98
2	224	117	107	88
3	224	116	108	81
4	224	117	107	73
5	-	116	116	72
Total	$1,120	$ 582	$538	$ 492

Present-value cost (after taxes) of lease financing on Plan 4

End of year	Lease payments	52% tax savings at end of year	Net cash flows	Present value of net flows at 10%
0	$ 375	-	$ 375	$ 375
1	275	$195	80	73
2	200	143	57	47
3	150	104	46	35
4	100	78	22	15
5	-	52	52	32
Total	$1,100	$ 572	$528	$513

* Richard F. Vancil, "Lease or Borrow - New Method of Analaysis," Harvard Business Review, September-October, 1961, p. 130.

The requirement for using any method of analysis should be that it supplies additional information for assisting in decision making. If no additional information is provided, computations will only result in wasting valuable time. It is important, therefore, that the user of the conventional method know when it will not provide any additional information. The conventional method offers an effective means of comparing costs of different plans, but it does not always provide additional information to decide between debt plans, and can be misleading in choosing the best leasing plan.

The costs of a debt financing plan are regulated by the amount of financing provided, the interest rate charged, and the method of depreciation used. Since the depreciation method used by a company usually remains constant, for all practical purposes debt plans vary in cost as a result of values attached to the first two elements. Additional information for deciding which debt plan is the least costly is supplied by computations when the plans under consideration vary in both element values. If the plans differ only as to the values of one of the elements, the decision can be made without computation by selecting the plan with the lowest interest or the highest amount of financing, as the case may be. The one exception to this rule occurs when the interest rates are the same for all plans, but the "opportunity rate" is less than the interest rate. Under these conditions, the costs obtained from using the conventional method <u>may</u> provide additional information.

General rules to follow similar to the ones given in the case of debt financing are not available for distinguishing between leasing plans. The costs of leasing plans primarily revolve around the amount

of financing offered and the permissible income tax deductions. The conventional method costs reflect the intermingled effects of tax treatment and the amount of funds provided. This means that comparison between leasing plans is not possible, and another method should be used to decide which leasing plan is the least costly before computing costs by the conventional method for comparison with debt and outright purchase plans.

Basic Interest Rate Method

One method now in use for determining the lowest cost leasing plan is called the Basic Interest Rate (BIR) method.[18] The BIR method treats the minimum cost of debt capital as an unavoidable cost of any financing plan. This eliminates the financing charges in lease plans and thereby allows comparison of plans on the basis of tax deductions.

The first step in using this method is to determine the BIR for the firm. "A corporation's BIR is defined as the minimum rate that the company would have to pay today to secure a given amount of funds from the issuance of the most attractive type of fixed-rate (debt) securities that the company is in a position to sell."[19] This rate is assumed to be 6% for the Madison Company.

The net present value cost is obtained by subtracting the tax credit from the fixed commitment of the plan. This is similar to the approach used in the conventional approach method for outright purchase, but for leasing the tax credit is derived from noninterest deductions

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[18] Ibid., p. 133.

[19] Ibid., p. 133.

instead of depreciation. The fixed commitments are determined by multiplying the annual payments by the appropriate present value rate for 6%. This results in plans which charge a higher interest rate than the BIR (as in Plan 4) being penalized to the extent of the incremental cost of the higher interest.

Computing the present-value tax shield is a more complicated procedure. The balance of the loan each year is obtained by subtracting the net difference between the imputed interest and the lease payment for the previous year from the balance of the loan for that year. The imputed interest is arrived at by multiplying the balance of the loan during the year by the BIR, 6% in this case. The noninterest deduction is determined by subtracting the imputed interest from the lease payment. Application of the tax rate to the noninterest deductions results in the tax savings realized annually. Multiplication of the tax savings by the appropriate present-value rate in the "opportunity rate" column produces the present value savings. See Exhibit VI and VII for computations of Plans 3 and 4 respectively.

EXHIBIT VI
ANALYSIS OF LEASE PLAN 3 BY BIR METHOD*

Fixed commitments: Present value at 6% of five annual payments in advance of $224 each $ 1,000

Less tax shield provided by lease payments in excess of 6% interest:

1	2	3	4	5	6	7	
End of year	Lease payment	Balance of "loan" during year	6% int. on principal x balance in Col. 3.	Noninterest deductions: prior year's lease payment (Col.2) less current int. (Col. 4)	52% tax savings at end of year on non-interest deductions	Present value of savings at 10%	
0	$ 224	$ 1,000	-	-	-	-	
1	224	776	$ 46	$ 178	$ 93	$ 85	
2	224	598	36	188	98	81	
3	224	410	25	199	103	77	
4	224	211	13	211	110	75	
5	-	0	-	224	116	72	
Total	$1,120		$ 120	$1,000	$ 520	$ 390	$ 390
Net present-value cost of Plan 3							$ 610

NOTE: We are interested here only in the tax shield that will result from the allowable deduction of lease payments. At the end of the first year, the Madison Company would be able to deduct $224, the amount of the payment made at the beginning of the year. Since we have identified $46 of this as interest charges for the first year, the remaining $178 is the "equivalent depreciation" deduction. This figure is subtracted from $776 to obtain the loan balance for the second year. By similar calculations for each year, we determine the amount of depreciation deductions during the life of the lease, and this total is $1,000 (Column 5).

* Richard F. Vancil, "Lease or Borrow - New Method of Analysis," Harvard Business Review, September - October, 1961, p. 134.

EXHIBIT VII
ANALYSIS OF LEASE PLAN 4 BY BIR METHOD*

Fixed commitments:

End of year	Lease payments	Present value at 6%	
0	$ 375	$ 375	
1	275	259	
2	200	178	
3	150	126	
4	100	79	$ 1,017
Total	$ 1,100	$ 1,017	

Net present value cost at 6%
Less tax shield provided by lease payments in excess of 6% interest:

1 End of year	2 Lease payment	3 Balance of "loan" during year	4 6% int. on principal x balance in Col. 3.	5 Noninterest deductions: prior year's lease payment (Col. 2) less current interest (Col. 4)	6 52% tax savings at end of year on noninterest deductions	7 Present value of savings at 10%	
0	$ 375	$ 1,000	-	-	-	-	
1	275	625	$ 38	$ 337	$ 175	$ 159	
2	200	388	23	252	131	108	
3	150	211	13	187	97	73	
4	100	74	4	146	76	52	
5	-	0	-	100	52	32	
Total	$ 1,100		$ 78	$ 1,022	$ 531	$ 424	$ 424
Net present-value cost of lease Plan 4							$ 593

NOTE: The imputed interest amounts to only $78 here, and this amount plus the cost of the equipment is $22 less than the total amount of lease payments. This $22 is the same lessor's premium, but the $17 present-value cost of that premium has grown to $22 by the time we assume it is paid at the end of the fourth year. (Reference to a compound interest table will show that $17 invested for four years at 6%, compounded annually, will grow to $22.) We could make a different assumption about the date at which the lessor's premium is paid, but we choose to consider it as being part of the final lease payment so that all of the early lease payments can be used to reduce the balance of the "loan" as rapidly as possible.

* Richard F. Vancil, "Lease or Borrow - New Method of Analysis," Harvard Business Review, September-October, 1961, p. 135.

Summary

The Madison Company is an excellent example for showing how no single method of analysis can provide all the desired information. The Interest Rate method is an effective means of determining the interest rate of each plan. Since the interest rates of the debt plans are the same, Plan 2 will result in the lowest costs because it offers the greatest amount of financing. This means that it is only necessary to compute the costs of Plan 2 by the conventional approach method. The BIR method showed that Plan 4 has the least costs from the viewpoint of tax credit received through the payment schedule. Plan 3 showed a lesser cost under the conventional approach method because it provided a greater amount of financing. Should more financing than that offered by Plan 4 be desired, a loan from the bank for the remainder of the amount would result in a lower cost than Plan 3. By using the conventional approach method, the least costly of the debt and lease financing plans and the outright purchase plan can be compared to determine which one will be adopted.

CHAPTER V

LEASING AND THE BALANCE SHEET

The effect that leasing has on the balance sheet has become one of the major controversies among advocates of leasing, accountants, and analysts. The proponents of leasing feel that the present accounting procedure of footnoting any future leasing agreement gives proper notification to those persons examining financial statements. Accountants and analysts frequently express the opinion that the lease is a commitment and should be reflected as such in the body of the balance sheet. The advocates of leasing state that because of its position on the balance sheet, little consideration, if any, is given to leasing in determining a company's credit rating. They further point out that leasing provides a means for management to avoid criticism of stockholders, restrictions of conventional debt, and dilution of equity. They emphasize, however, that it should not be considered as a means of hiding facts, but should be used to increase performance within the confines of regulatory mandates dictated by other financing agreements and owner's preference. The critical accountants and analysts charge that the uses of leasing mentioned above encourage deception and claim improved credit ratings which do not actually occur.

It would appear that the qualification by those who favor leasing that it should not be used "as a means of hiding facts" answers the charge of deceit lodged by the opponents. The real question then, is: "Does leasing provide additional financing to a business because it is an 'off-balance sheet' item?"

Leasing Supporters' Opinion

The following quotes are representative of the written material claiming that leasing provides additional financing.

> It [leasing] keeps your line of credit open ... and does not appear as a fixed liability in the financial report. It therefore gives your balance sheet a more favorable [current] asset-to-liability ratio.[20]
>
> Rent has traditionally been considered as operating expense and is included among costs of doing business. If it is to be considered a liability merely because it will continue in the future, why should the same reasoning not apply to all expenses of a continuing nature such as heat, electricity, telephone service or even labor and raw materials.[21]
>
> To learn how the security analysts of insurance and trust companies treat material and long-term leases, we conducted a survey of a number of the larger of such institutions in both New York and New England.
> We asked: "For credit purposes, do you have a formal technique of weighing lease obligations?" In no instance did we find a formal method employed.[22]

The Critics' Opinion

Those who feel that the "borrowing limit" of a company is not increased by leasing have made such statements as the following:

> It seems likely that experts in financial-statement analysis will question firm lease obligations as part of their routine procedure, and make appropriate adjustments in liability accounts.[23]
>
> The question of investment is not one of who holds legal title to the asset, but rather who has assumed the capital risk.[24]

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[20] Leonard Sloane, "The Straight Facts on Equipment Leasing," Purchasing, February 16, 1959, p. 20.

[21] Donald R. Grant, "Illusion in Lease Financing," Harvard Business Review, March-April, 1959, p. 125.

[22] "From the Thoughtful Businessman," Harvard Business Review, May-June, 1959, p. 164.

[23] "Frank K. Griesinger, "Pros and Cons of Leasing Equipment," Harvard Business Review, March-April, 1955, p. 83.

[24] Grant, op. cit., p. 121.

> .... It is also only reasonable to expect... investors to take lease commitments into consideration when making investment decisions ...
>
> But the ways of making the evaluation of lease commitments vary considerably. In its simplest form, the approach may consist merely of analyzing a company's lease commitments in relation to sales and earnings, perhaps comparing these ratios to those of competitors to see whether they appear out of line.
>
> The more sophisticated approach, which is being adopted to an increasing extent, represents an attempt to recast a company's balance sheet to include the assets and the liabilities which its lease commitments are believed to represent ....
>
> Another common practice in financial analysis is to add lease rentals to interest in computing the coverage of fixed charges.[25]

An Unbiased Survey

In an effort to obtain some means to evaluate whether leasing provides additional financing, a survey was sponsored by the Harvard Business Review to determine how financial institutions weigh the effects of lease obligations. The results of the survey were published in the November-December, 1959 issue of the Harvard Business Review and form the basis of the information presented in the remainder of this chapter.[26]

The study involved the sending of questionnaires to a varied group of financial institutions and corporations, the former being carried out in two stages. The "first stage" of the financial institutions survey consisted of sending 512 questionnaires to a selected group including insurance companies, commercial banks, mutual funds, investment bankers,

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[25] Ibid., p. 139.

[26] Richard F. Vancil and Robert N. Anthony, "The Financial Community Looks at Leasing," Harvard Business Review, November-December, 1959, pp. 113-130.

trustees, and rating companies. The information requested involved the treatment of lease obligations of a company when the financial institution was considering granting a direct loan. The financial institutions were asked to state the procedure normally used to evaluate the lease obligations. The questionnaire offered a choice of analytical procedures by listing the categories separate factor and comparative ratio under the subhead "informal techniques," and the categories fixed charge, liability, and a combination of fixed charge and liability under the subhead "formal techniques." The number of respondents totaled one-half of the questionnaires mailed out. The results of the "first stage" showed that approximately three out of every four respondents reported using a formal means of analysis.

A "second stage" questionnaire was sent to the 163 analysts who had identified themselves in the first response, and had reported the use of one or both of the formal techniques. This questionnaire was intended to test the realiability of the response on the first questionnaire by having the analysts concerned apply the analytical techniques in use to four case situations. Additional questions on specific information about the institution's policy regarding the evaluation of lease obligations were also included. Only about one-third of these questionnaires were returned completed. Eighty per cent of the respondents to the "second stage" questionnaires consisted of insurance companies and commercial banks.

The segment of the study involving a corporate survey was conducted by sending questionnaires to 1,310 of the largest industrial, merchandising, utility, and transportation companies in the United States. The primary questions of the survey involved the determination of any leasing

and/or debt restrictions placed on a company by long-term debt agreements, and the percentage of long-term leasing as measured against net sales. Another question was concerned with the percentage of long-term debt to total capitalization. The number of respondents totaled slightly over one-half of the number of questionnaires mailed out.

The questionnaires used in the corporate survey and the "second stage" of the financial institutions survey also included questions which were meant to disclose how the individual completing the questionnaire felt about certain aspects of leasing. The questions included inquiries as to the ranking of long-term and short-term leasing in reference to other means of financing; the reasons for accepting a higher rate attached to leasing; and the individual's opinion on whether a greater amount of credit is available through leasing than would be possible under debt financing. The answers to the first two questions resulted in a variety of answers, but the main concern of the study was the final question. Four hundred of the five hundred eighty-three individuals exposed to this question answered, "Yes."

Results of the Survey

The survey showed that most analysts feel that a long-term non-cancelable lease is equivalent to debt. However, it appeared from the data collected that only a minority treated leasing on this basis. A comparison of the results of the "first stage" and "second stage" financial institution respondents supports this line of reasoning.

A better picture of the existing condition can be obtained by viewing all the segments of the study as a whole, rather than each part separately. It was found that less than half of the insurance companies, less than one-fourth of the commercial banks, and almost none of the other institutions questioned actually made use of formal analytical techniques equating lease payments to debt on a day to day basis. Those analysts that did use a formal technique varied considerably in the final valuation when examining an identical case. Less than half of the debt arrangements reported contained any restriction on incurrence of lease obligations. Of these debt arrangements with restrictions, approximately 90% used dollar limitations and only 10% included provisions for conversion of lease obligations into debt. The group which reported that they felt that long-term noncancelable leases made it possible for a company to receive an increased amount of credit was comprised of 90% of the respondents of the financial institutions survey and 65% of the respondents of the corporate survey.

Suggested Reasons for Survey Results

The survey clearly points out that neither the advocates nor the critics are completely accurate in their claims. The true condition lies between their positions and is caused by several governing factors. The fact that leaseholds carry with them some resale value tends to reduce the extent that leasing can be treated as a long-term debt. The characteristics possessed by short-term leases cause this type of transaction to be almost

totally disregarded in any evaluation of the credit standing of a company. Finally, though it is a negative approach, the legal commitment involved with leasing an asset results in a relatively small obligation in the case of bankruptcy.

The results of the study emphasize that a company should not be deceived by claims of complete disregard of leasing commitments by persons examining financial statements. On the other hand, the company should cautiously evaluate any statements by financial institutions that leasing will not increase a company's credit rating at all. Leasing will increase a company's credit rating, but the extent of the increase is directly affected by the other financial conditions of the company at the time.

CHAPTER VI

CONCLUSION

> A Dun and Bradstreet survey in July, 1958 showed a general neglect in modernizing plants and equipment. One out of every four plants with some obsolete equipment estimated that production costs could be reduced by 10 per cent or more if all obsolete facilities were replaced with up-to-date equipment.[27]

Public statements currently being made by business and government officials tend to support the possibility that the above survey is as applicable today as it was in 1958. International trade pressure requires that modern equipment be used in the manufacture of goods so that costs are reduced to a minimum and a competitive position is maintained with cheaper labor markets. The legislation that is now pending in Congress for faster depreciation write-off to encourage modernization is an indication that the government is very concerned. The hard, cold fact is that business cannot afford to stand still and wait for others to solve its problems. Recent developments have shown that major price increases to provide capital for modernization might depend on governmental approval. Business, therefore, must know how to use all available means of financing if it is to satisfy its needs.

Leasing is not a panacea for financing equipment and fixed asset needs. It is simply one method of acquiring medium-term or long-term capital. Just as in other means of financing, there are limits to the amount of lease financing that a business can effectively use and/or afford. Seldom, however, does this limitation result in completely eliminating the possibility of leasing's usefulness.

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[27] Francis T. Knouss, "You Can Rent It, But Should You?," N.A.A. Bulletin, October, 1959, p. 75.

It is important to realize that leasing is becoming more and more an accepted means of financing. Like consumer credit, there is nothing inherently wrong with leasing. The good or bad that results from leasing are directly proportionate to the way it is used. Ignorance is the evil that can turn leasing into a nightmare. Ignorant use of leasing can result in costly losses. On the other hand, failure to use leasing because of ignorance can result in the inability to maintain a competitive position.

Inevitably, leasing will assume its proper economic role as a secondary alternative to purchasing. At that time financial executives will be forced to learn how and when to use it. The executive who learns these facts now will not only be preparing himself for the future, but also will insure that he is not overlooking a possible answer to his company's financial needs today.

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